

SCIENCE & GOVERNMENT REPORT

The Independent Bulletin of Science Policy

Vol. IX, No. 16

P.O. Box 6226A, Washington, D.C. 20015

October 1, 1979

Academe Boosts Share of Federal R&D Funds

While the mandarins of academic research routinely wail that no one in Washington cares about their financial distress, statistics newly released by the National Science Foundation indicate that university-based science has been rapidly enlarging its slice of overall federal R&D spending.

What this all adds up to, according to the Foundation, is that the academic share has risen from one out of every ten federal R&D dollars in 1970 to an estimated \$1.50 in the current fiscal year. Meanwhile, NSF also reports the federal wealth has been spreading throughout academe, so that the proportion of the money

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awarded to the top 100 institutions dropped from 71 per cent in 1970 to 56 per cent in 1977.

These and other findings are contained in NSF's latest statistical portrait of the federal role in academic finances: NSF 79-312, which is a four-page summary of NSF 79-311 (*Detailed Statistical Tables: Federal Support to Universities, Colleges and Selected Non-profit Institutions, Fiscal Year 1977*), both available without charge from Division of Science Resources Studies, National Science Foundation, 1800 G St. NW., Washington, DC 20550.

Because of the leisurely pace of the government's reporting systems, the NSF study — drawn from the 14 agencies that account for "over 99 per cent" of federal funds for academic research — must do mainly with estimates for the period beyond Sept. 30, 1977. But since R&D budgets rarely change radically from one year to the next, the figures beyond that date can be accepted as quite reliable.

What the numbers show, in general, is that deliberate efforts to outpace the rate of inflation in R&D finance were succeeding for a time, but that the current inflationary surge — coupled with Mr. Carter's hold-the-line policies — has overwhelmed these efforts. Thus, from 1963 to 1975, the average annual rate of growth for academic R&D — in constant dollars — was a mere 1.7 per cent. From 1975 to 1977, however, the increase was an at annual rate of 2.3 per cent. And, though the NSF summary doesn't give the constant-dollar figures for 1977-79, it can be inferred from the numbers that it does offer that the gains during those years were substantially higher than 2.3 per cent, in direct response to the Ford

and Carter directives to boost spending for basic research. What the summary does say, though, is that "the federal fiscal year 1980 budget calls for only a 5-per cent increase [in academic R&D support] which, in contrast to the three previous years, will produce a decline in constant-dollar terms." How much, it doesn't say. But with inflation now running at an annual rate of over 13 per cent, the arithmetic is clear.

As for which institutions are getting the money, NSF reports that the growth of academic R&D support — from \$2.7 billion in 1975 to \$3.3 billion in 1977 — has been accompanied by a limited spread-the-wealth movement. The top 100, as noted above, have been reduced from nearly three-quarters to a bit more than half of the total academic take. But the 10 ten may be holding their own. NSF's figures show, for example, that their share, 23 per cent, remained unchanged from 1976 to 1977; also that 19 of the top 20 in 1976 remained in that charmed group in 1977.

That federal agencies tend to follow policies that further enrich the rich is evident from NSF's finding that "The Department of Transportation obligated one-

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In Brief

White House Science Adviser Frank Press returned from Tokyo last month with an agreement to broaden US-Japanese R&D relationships. With the two countries already sharing the costs of several costly energy projects, the new accord calls for branching out into space, environmental, and health research. Details of specific projects, remain to be worked out, according to a member of Press's staff, who said "right now, it's an agreement to agree."

Press will be leaving October 7 for a 10-day trip that will take him to Brazil, Venezuela, Peru, and Barbados, with cooperative R&D ventures again the object of his mission. In addition to conferring with his counterparts in those nations, Press and his delegation will meet with representatives of regional Caribbean and Andean organizations.

Rumors persist that Arthur C. Upton has decided to leave the directorship of the National Cancer Institute at the end of the year to take an academic post. Upton tells us — through an NCI spokesman — that he is "considering other offers but has not made up his mind to leave."

... A Sharp Dropoff in Federal Training Funds

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half of its R&D support funds to the leading 20 research universities, largely for engineering research. Four other agencies — the Department of Health, Education, and Welfare, National Science Foundation, the [now defunct] Energy Research and Development Administration, and the National Aeronautics and Space Administration — concentrated over 40 per cent of their R&D support to those institutions, predominantly in the life sciences, physical sciences, and engineering."

The NSF report also provides a statistical verification for what's been obvious for a long time in academic science, namely, that federal fellowships, traineeships, and training grants are disappearing breeds. At \$185 million in 1977, these funds, the report states, "represented a level that in current dollars was less than one-half of the \$421 million obligated in 1971" — which is when the numbers were first gathered. "This decline," the anonymous NSF authors matter-of-factly explain, "resulted from the Federal Government's earlier decision to de-emphasize direct support of graduate students through traineeship programs in view of an expected ample supply of PhD's in most disciplines. Consequently, the proportion of full-time graduate students in doctorate-level institutions primarily supported by

Federal funds dropped from 32 per cent in 1971 to 23 per cent in 1977." The report adds that the drop was partially offset by the 16 per cent increase that occurred since 1973 in the number of research assistants hired to work on federally assisted projects.

Federal obligations to universities and colleges by types of activity: FY 1975-77

(Dollars in millions)

Type of activity	1975	1976	1977
Total	\$4,533.3	\$5,386.7	\$6,473.1
Academic science	2,791.8	2,943.6	3,335.3
Research and development	2,224.8	2,407.0	2,772.4
R&D plant	44.8	23.9	36.5
Facilities and equipment for instruction	12.4	11.1	17.8
Fellowships, traineeships, and training grants	201.3	174.9	184.7
General support for science	46.4	74.5	75.9
Other science activities	262.3	252.2	248.0
Nonscience	1,741.4	2,443.2	3,137.9

Source: National Science Foundation

USSR-US Exchange Deadline

Scientists who want to study or do research in the Soviet Union or the Eastern bloc countries are invited by the National Academy of Sciences to inquire about its 1980-81 exchange programs with that part of the world. Deadline for "preliminary inquiries" is October 26; final forms must be in by November 16.

Address: Commission on International Relations, NAS, 2101 Constitution Ave. NW., Washington, DC 20418; tel: (202) 389-6616 or 6228.

For those interested in exchanges with the People's Republic of China, the deadline for final applications is October 24. Information and forms are available from the Committee on Scholarly Communications with the People's Republic of China, also located at the NAS; tel: (202) 289-6683.

NIH Appoints New Science Head

Robert H. Goldberger has been appointed Deputy Director of Science at the National Institutes of Health, a post responsible for the NIH intramural research.

For the past six years, Goldberger has been Chief of the Laboratory of Biochemistry in the National Cancer Institute's Division of Cancer Biology and Diagnosis. In his new position, he succeeds DeWitt Stetten Jr., who has been named Senior Scientific Adviser to NIH Director Donald S. Fredrickson.

Editor of *Nature* Resigns

David Davies will be leaving the editorship of *Nature* at the end of this year to become Executive Secretary of the Dartington Trust, which is dedicated to preserving the cultural heritage of Devon, in Southwest England.

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ISSN 0048-9581

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Independently published by *Science & Government Report, Inc.*, twice monthly, except once each in January, June & July. Annual Subscription: Institutions, \$89.50 (two years, \$168.50); individuals, \$48.50 (two years, \$82.50). Editorial offices at 3736 Kanawha St., N.W., Washington, DC 20015. Tel. (202) 244-4135. Second class postage paid at Washington, DC. Please address all subscription correspondence to Box 6226A, Northwest Station, Washington, DC 20015. Reproduction without permission is prohibited. SGR is available on Xerox University Microfilms.

Academe's Top 100 (1977) in Federal Funds

(Dollars in thousands)

Rank	Institution (Ranked by total Federal obligations)	Total, all activities ²	Research and develop- ment ²	R&D rank
United States, Total		\$6,473,110	\$2,772,430	
1	Howard University	115,930	5,163	126
2	Mass Inst of Technology	109,439	91,771	1
3	University of Washington	96,924	69,501	4
4	Univ of Cal Los Angeles	96,363	73,232	3
5	University of Minnesota	92,684	50,013	11
6	Stanford University	84,926	73,400	2
7	Harvard University	76,707	58,108	7
8	Univ of Cal San Diego	74,944	68,579	5
9	University of Michigan	74,504	52,051	9
10	Columbia Univ. Main Div	74,425	60,129	6
Total 1st 10 institutions		896,846	601,947	
11	Univ of Wis-Madison	72,606	53,027	8
12	Cornell University	69,986	49,550	12
13	Univ of Pennsylvania	68,829	48,119	13
14	Univ of Cal Berkeley	66,693	43,484	16
15	Johns Hopkins University	64,435	51,075	10
16	Yale University	60,154	47,318	14
17	University of Chicago	54,209	45,852	15
18	Ohio State University	54,091	25,244	26
19	Univ of Southern Cal	53,778	36,967	19
20	Univ of Ill Urbana	52,603	38,435	17
Total 1st 20 Institutions		1,514,230	1,041,018	
21	Pennsylvania State Univ	49,223	23,003	33
22	New York University	48,327	35,357	21
23	University of Colorado	47,970	29,858	22
24	Univ of Cal San Francisco	46,445	36,499	20
25	Washington University	45,367	37,755	18
26	University of Rochester	42,885	26,388	24
27	Michigan State University	42,641	19,993	39
28	University of Miami	40,550	24,116	30
29	Duke University	40,403	29,627	23
30	UPR Med Sci Campus	40,014	3,020	152
Total 1st 30 Institutions		1,958,055	1,306,634	
31	Univ of NC at Chapel Hill	38,906	21,249	35
32	Purdue Univ all campuses	37,853	23,742	31
33	University of Arizona	36,951	24,653	28
34	University of Utah	35,500	24,329	29
35	University of Pittsburgh	34,883	20,888	36
36	Yeshiva University	34,410	26,244	25
37	Georgetown University	33,860	11,743	72
38	Boston University	33,020	17,199	51
39	University of Iowa	32,005	21,425	34
40	Northwestern University	31,911	23,319	32
Total 1st 40 Institutions		2,307,354	1,521,425	
41	University of Florida	31,701	18,432	48
42	Univ Alabama Birmingham	31,548	18,862	46
43	Colorado State University	31,016	18,878	45
44	Inter Amer Univ of P R	30,362		19 530
45	Univ. of Ky all campuses	30,179	10,095	80
46	Univ of Texas at Austin	30,146	25,003	27
47	Case Western Reserve Univ	28,808	19,869	40
48	Texas A&M University	28,799	14,431	60
49	University of New Mexico	28,529	13,231	65
50	Univ of Cal Davis	28,234	19,440	41
Total 1st 50 Institutions		2,606,676	1,679,685	
51	Univ of Hawaii-Manoa	\$28,217	\$18,916	44
52	Univ of Md College Park	27,102	18,535	47
53	Univ of Missouri Columbia	26,085	12,402	68
54	Oregon State University	26,009	19,182	42
55	University of Virginia	25,791	17,212	50
56	Washington State Univ	25,384	7,725	92
57	Univ of Mass at Amherst	24,964	9,749	84
58	University of Kansas	24,871	13,246	64
59	Baylor Col of Medicine	24,000	20,338	38
60	Rutgers the St Univ of NJ	23,889	10,188	78
Total 1st 60 Institutions		2,862,988	1,827,178	
61	Temple University	23,707	12,434	67
62	California Inst of Tech	23,203	20,804	37
63	Wayne State University	22,504	10,155	79
64	NC State Univ at Raleigh	22,425	11,448	74
65	University of Connecticut	22,333	12,773	66
66	La St Univ — All campuses	22,272	10,058	81
67	Tufts University	22,260	6,675	103
68	University of Georgia	22,123	10,741	76
69	University of Alaska	21,862	18,414	49
70	U Tennessee Knoxville	21,784	13,311	62
Total 1st 70 Institutions		3,087,461	1,953,991	
71	Univ of Md Balt Prof Sch	21,605	15,312	59
72	University of Cincinnati	21,515	9,582	85
73	Tulane University	21,326	8,039	90
74	Georgia Institute of Tech	21,015	19,138	43
75	Vanderbilt University	20,814	16,449	53
76	U Tex Hlth Sc Ctr Dallas	20,581	15,688	57
77	CUNY Mt Sinai Sch of Med	20,184	16,707	52
78	Meharry Medical College	20,141	1,070	200
79	Princeton University	19,970	16,331	54
80	New Mexico State Univ	19,630	12,268	70
Total 1st 80 Institutions		3,294,242	2,084,575	

¹Amounts shown represent awards to individual institutions. Awards to the administrative offices of university systems are excluded from institutional totals because final allocation of funds is unknown but are included in "United States total."

²Amounts shown represent total obligations from 14 Federal agencies which accounted for over 95 percent of all Federal obligations to universities and colleges in the United States and for 99 percent of all Federal obligations for research and development to such institutions. These proportions may not apply to all individual institutions, some of which receive significant amounts of their funding from agencies not included in the survey, such as the Department of Justice, the Veterans' Administration, and the Smithsonian Institution.

³Howard University and Gallaudet College receive substantial appropriations from Congress each year for general operating expenses; their relative rankings thus reflect the magnitude of their nonscience programs.

SOURCE: National Science Foundation

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OSHA and Industry Clash on Workplace Safety

"A silent slaughter, a maelstrom lost amidst a maze of tongue-twisting chemicals, new industries, conflicting scientific reports and government-industry debate." That's the way the Occupational Safety and Health Administration described the "loss of at least 100,000 lives a year" because of occupational disease.

The colorful language, advertising an OSHA-sponsored "media seminar" entitled *Lost in the Workplace: Is There an Occupational Disease Epidemic?*, attracted over 100 journalists last week to the two-day event in Chicago, and twice that number of union and industry representatives. The corporate health spokesmen regarded both the advance publicity and the seminar itself as hopelessly biased against them. "We in industry are dismayed and angry that a responsible federal agency should be making such inaccurate and inflammatory charges," said Ronald Lang, executive director of the American Industrial Health Council (AIHC).

Under heavy pressure from industry, OSHA had added two or three pro-business speakers to balance its original line-up, which would have been dominated by well-known critics of corporate America. But the AIHC still set up its own press room at the meeting, offered press briefings and lunch, and presented sympathetic scientists to contest OSHA's allegations of an epidemic of occupational disease.

OSHA is, of course, battling against strong forces, marshalled by the business lobby: In Congress, where bills to curb its powers stand a good chance of passing this session; in the White House, where economic advisers complain about productivity-stifling regulations, and in the courts, where industry is challenging many of its actions. At the same time, OSHA seems in relatively good shape internally — better than some other regulatory agencies. The seminar was therefore intended to counterattack its critics, by revealing to the ignorant media the extent and costs of occupational disease.

Labor Secretary Ray Marshall set the tone by contrasting the "undue attention to trivial violations and almost complete neglect of occupational health" shown by OSHA in the bad old days of Nixon and Ford, with the new OSHA under Eula Bingham, whose stated aim is to concentrate on the fight against occupational disease. "Opposition to the agency's policies is no longer grounded in ridicule. OSHA can back its regulatory decisions with the very best scientific and technical expertise," Marshall claimed.

The most far-reaching OSHA regulation of all — the long-delayed generic standard for occupational carcinogens — will be published "within weeks," Bingham promised. She said it would not be held up further by industry's challenge to its benzene exposure limit. (This challenge, on the grounds that OSHA didn't carry out a reasonable cost-benefit analysis, is to be heard by the Supreme Court this term). The signs are that the regulations' final form will not be much weaker than the original proposal, published in October 1977, which would have limited exposure to all confirmed and suspected carcinogens "to the lowest feasible level." (The AIHC was founded specifically to fight that proposal, though it has since taken on a broader lobbying role).

The imminent publication of the generic carcinogen regulation probably explains the timing of the seminar. The emphasis was firmly on cancer, and only passing mention was made to other serious occupational diseases affecting millions of Americans, such as the various respiratory problems caused by prolonged exposure to dust from cotton, coal, and silica, and the neurological disorders caused, for example, by lead poisoning. There was also a session on reproductive health, which revealed that almost nothing is known about reproductive hazards in the workplace. The panelists did, however, agree that the widespread practice of keeping fertile women away from toxic chemicals, while allowing men to work with them, is often unreasonable sexism, since the male reproductive system may be as vulnerable as the female.

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STANDINGS

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81 George Washington Univ	19,615	13,437	61
82 Indiana Univ-Bloomington	19,566	10,906	75
83 SUNY at Buffalo	19,166	12,376	69
84 Gallaudet Colleges	18,725	239	298
85 U Tex-Andrsn Hosp & Tumor Inst	18,245	16,284	55
86 Oklahoma State University	18,137	7,166	97
87 Woods Hole Ocngrphic Inst.	18,011	15,988	56
88 Emory University	17,813	11,779	71
89 Va Polytech Inst & St U	77,783	9,845	83
90 Virginia Commonwealth Univ	17,420	9,178	88
Total 1st 90 Institutions	3,478,723	2,191,773	

91 U of Vermont & St Agr Col.	17,055	9,276	87
92 Iowa St U of Sci & Tech	16,953	7,572	94
93 Rockefeller University	16,814	15,344	58
94 Auburn University	16,256	5,410	63
95 Carnegie Mellon Univ	16,028	13,303	63
96 City Colleges of Chicago	15,900	0	
97 Mississippi State Univ	15,814	5,140	127
98 Indiana U-Purdue U Indpls	15,796	7,352	95
99 at Stony Brook	15,204	11,470	73
100 Catholic Univ of P R	14,983	0	
Total 1st 100 Institutions	3,639,526	2,266,640	

NAS Takes Legal Action Against Alleged Slur on Integrity

Though its official spokespeople decline comment, it is reliably reported that the venerable National Academy of Sciences, target of many missiles in recent years, has resorted to a libel suit in response to what it apparently regards as a particularly venomous attack.

The report — confirmed to SGR by an Academy source — appears in the September 17 *Medical World News*, which states that NAS is in the process of getting settlement of a suit against publishers Simon and Schuster and author David Reuben for remarks contained in the latter's book *Everything You Always Wanted to Know About Nutrition*.

What appears to have upset the Academy, among other statements, was Reuben's reference to its Food and Nutrition Board as "just a nifty little private business organized and owned by food manufacturers and vitamin sellers."

In compensation for pain caused by this remark, the Academy asked Manhattan Superior Court to relieve the defendants of \$10 million, plus another

\$25 million for punitive damages, according to *Medical World News*. The magazine adds that the suit has been settled on the basis of Reuben's agreement to write a letter of apology and to delete the offending remarks from a forthcoming paperback edition.

SGR demurs from any attempt at assessing the substantive merits of this litigation. However, for those who wish to pursue the matter further, we recommend as a starting point a comment that Harvey Brooks, one of the elder statesmen of the Academy, is quoted as having made in the course of an interview with the highly esteemed *National Journal* in 1971. Speaking of the Academy, Brooks is reported as stating:

"It's true that some of our bodies — the Highway Research Board, the Food and Nutrition Board, the Building Research Advisory Board and the Space Science Board, for instance — may be constituted too completely with those who have an economic or institutional interest in the outcome of their work."

... Rall Defends Carcinogenesis Estimates

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There was much trading of rival estimates of the fraction of cancer related to occupational factors. Industry and some academics are still feeling outraged by the report HEW published a year ago, which concluded that at least 20 per cent of US cancer cases and perhaps as many as 38 per cent are occupationally related, with asbestos as the main culprit. In contrast, five per cent was mentioned as the upper limit by Ronald Land, the AIHC executive; Bruce Karrh, DuPont's medical director, and William McCarville, environmental affairs director for Monsanto. The same figure was given by New York University pathologist Harry Demopoulos, who told journalists at the AIHC press lunch that "most university scientists are mad with the government" for using their work to exaggerate the incidence of occupational cancer.

But David Rall, director of the National Institute for Environmental Health Sciences and an author of the HEW report, was on hand to defend it. "I don't think 20 per cent is a bad figure and I'll stick with it," he said. And Sam Epstein of the University of Illinois School of Public Health (and author of *The Politics of Cancer*) gave several reasons why he believes "this report clearly underestimates the impact of occupational carcinogens."

Industry and government also disagree about the best way to identify carcinogens in the workplace. Rall and National Cancer Institute pathology chief Umberto Saffiotti emphasized the overwhelming importance of

long-term animal tests and took care to reinforce their credibility, which they believe has been undermined by the saccharine debate. At same time they described the severe limitations of human epidemiology as a means of identifying carcinogens — notably the long latent periods of most cancers and the difficulty of establishing a clear control group. The AIHC, on the other hand, still insists on the primary role of human studies where available, supplemented by evidence from laboratory animals.

The problem is, of course, much more complex than merely identifying individual carcinogens, because of the interactions that sometimes make them far more powerful in combination. The point was emphasized by Thomas Mancuso of the University of Pittsburgh: "What must be realized is the virtual vacuum of scientific investigation over the years of the microchemical environment of the industries throughout the country."

All in all, the seminar showed how incomplete is the scientific basis of the growing debate over occupational illness. Participants did agree that the debate is going to become more lively as concern for industrial health grows, particularly among labor unions (some of which have traditionally taken little interest), at the same time as the country's political mood gives business more confidence to assault the federal regulatory apparatus.—Clive Cookson

(The author is Washington correspondent for the *London Times Higher Education Supplement*.)

A Harvard View of the Federal Bookkeepers

SGR yields to none in relishing the frequent disparity between academe's professions of piety and actual performance in the grubby matter of getting and using federal research money. Our sense of fairness, however, compels us to acknowledge that we have perhaps been a bit neglectful in presenting the problem as it appears from the vantage point of academe's money managers. So, herewith, are some revealing snippets of testimony that Financial Vice President Thomas O'Brien of Harvard — an institution much plagued by HEW's bookkeepers — presented September 12 to the House Subcommittee on Intergovernmental Relations and Human Resources:

●

A great deal of criticism has been aimed recently at the way in which research universities account for federal funds. Some of that criticism has been justified; much of it has not. Based in large measure on misunderstanding of how universities function, it has tended to reduce what was once a research partnership between the federal government and universities to a purchaser-supplier relationship which seems to become ever more adversarial.

At the same time, federal auditing procedures have been criticized by the Congress and by the General Accounting Office. Congress is frustrated in its demand for assurance that federal research funds are being used as intended and managed as required. Universities are wary of federal auditors, worried about adverse publicity, and pressured to spend ever scarcer funds on more administration, the least productive and least popular of all activities . . .

At Harvard, we must be able to demonstrate that every dollar expended in some 2000 federal grants a year was spent for the benefit of that project according to all regulations. We must be able to provide detailed time and effort records to justify salary expenditures. We are trying to do that and I believe we are succeeding remarkably well.

We have some difficulty, however, in succeeding totally because of the very nature of a university. Accounting standards for time and effort, for example, that are appropriate for a government procurement contract with an aeronautics firm to produce a specific piece of hardware are probably not appropriate for a medical research grant. Often the time spent by a medical investigator simply does not break down very neatly. A doctor doing kidney research on a National Institutes of Health grant may spend two hours with a patient on dialysis in a teaching hospital accompanied by a post-doctoral student who is assisting him in his research. Exactly how does he charge that time? Is he

teaching — is he practicing medicine — is he conducting research? Probably all three.

But in making this familiar and traditional argument — in defending principal investigators from filing detailed time reports — I believe we sound self-serving and miss the real point. The case made by the General Accounting Office and other Congressional inquiry shows that both federal audits and private CPA audits of university research management leave much to be desired. The goal of the federal auditors appears to be to justify their existence and prove their worth by finding disallowances while the accounting firms certify only that the financial statements of the universities are materially correct. Federal audits are also notoriously deficient in offering constructive criticism of university accounting systems and control procedures. Public accounting firms as part of their annual audit also provide management letters of widely differing degrees of specificity and quality. Normally certified financial statements do not assure that federal research funds are accounted for and controlled in accordance with all contractual regulations; that is not their purpose. . . .

It might be more useful at this point to move from these general comments to our own recent experiences. In 1978 auditors from the Department of Health, Education, and Welfare reviewed detailed accounting for federal programs at Harvard. We have received the first part of their draft report. It covers the years 1975 to 1977 during which \$37.1 million was expended under federal grants and contracts by our School of Public Health.

The incomplete draft recommended that approximately \$2.5 million (7%) in costs be disallowed because they could not find documentation to support the charges. We expect this amount to be reduced significantly after we have had the opportunity to present additional information, which, incidentally, was available during the audit. Further examination of our records will support most costs which the auditors were unable to substantiate. We will cite federal regulations that support our actions and we will find and present documentation that the auditors failed to identify. When we have prepared our detailed response to the auditor's findings, I think that HEW will accept and approve as perfectly legitimate the large majority of the charges questioned. Unfortunately, the stigma of the early report is likely to remain and those responsible for negotiating a final settlement may be castigated as having somehow been less vigilant than the original auditors, not simply better informed. . . .

Everyone involved agrees that the HEW audit agency does not have the resources to conduct annual audits of

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New Energy Secretary Reshuffles the Troops

Update on some high-level comings and goings at the Department of Energy, where newly installed Secretary Charles W. Duncan Jr. is seeking to manage what proved utterly unmanageable under his predecessor, James R. Schlesinger:

Appointed to head the Office of Research Applications is Ruth M. Davis, who, like Duncan, comes from the Department of Defense, where she was Deputy Under Secretary for Research and Advanced Technology. Davis, formerly Director of the Institute for Computer Sciences and Technology of the Bureau of Standards, was one of the highest ranking women in the federal R&D hierarchy in her DOD job; her new post, carrying the rank of Assistant Secretary, puts her even a notch higher than before. Davis succeeds George McIsaacs, who resigned.

George M. Fumich Jr., head of DOE's Coal Technology Program, has been moved up to the newly created post of Assistant Secretary for Fossil Energy, which was established to satisfy coal state demands for greater recognition in the Department.

Another Duncan creation — but yet to be filled — is an assistant secretaryship for Nuclear Energy, which formerly was bunched together with the fossils job.

Taking the job of Director of the Office of Energy Research is Edward A. Frieman, Deputy Director of the Princeton Plasma Lab, who succeeds John M. Deutch, who has ascended to DOE's number three spot, Under Secretary.

William W. Lewis, another DOD veteran, has been appointed to replace Alvin Alm as Assistant Secretary for Policy and Evaluation.

And then there's John C. Sawhill, the President of New York University, who recently replaced John F. O'Leary in the number two job, Deputy Secretary. *The Washington Post* reported on September 24 that the DOE Assistant Secretary for Conservation and Solar Applications, Omi Walden, "was fired in the elevator" by Sawhill. In response to an SGR inquiry, a member of Walden's staff said that she hasn't been fired — in the elevator or anyplace else.

HARVARD

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each grantee. In fact, it has not even been possible to establish a schedule of rotation among institutions or among years or department activities at a particular institution. As a result, people at the institutions see auditors so infrequently that they do not understand the purpose of their activities. Similarly, auditors visit any one institution so infrequently that they must relearn their job with each new audit. They have no standards against which to conduct their audit. . . .

In our most recent fiscal year, Harvard expended approximately \$90 million under federally sponsored agreements. About 250,000 charges were made to our accounting system to accomplish this — an average of approximately \$360 per charge. If an auditor reviews all of these 250,000 charges, some will inevitably be in error. However, if an auditor samples 250 of these charges, one-tenth of one percent, and finds only three of them in error, can one then legitimately conclude that there is an error rate of slightly more than 1 per cent and recommend a one million dollar disallowance? Is that really what is intended? It would seem that a complex system that worked correctly 247 out of 250 times should be complimented rather than penalized. . . .

I believe that an ideal system of government audit would focus on reviewing an institution's control system for managing federal funds and then certifying that

those systems are or are not adequate to assure that all grant and contract requirements are adhered to. The emphasis would be on identifying, penalizing, and correcting weak systems. After the government certifies that an institution's system is capable of meeting government standards of accountability, auditors would still be able to review individual transactions, monitor accuracy and documentation, and ensure that the system worked as intended. . . .

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NSF Gets Off Easy in Education Reorganization

Thanks to intensive lobbying by its on-board chiefs and outside friends, the National Science Foundation is going to have to ante up relatively little to the proposed Department of Education.

The Department, which, after long Congressional wrangling, has been approved by a House-Senate conference committee, is not yet home free, since it may get tangled up in prayer, busing, and sex and race quota issues. But, it's getting close, following quick Senate approval, September 24, of the conference report.

The Foundation, fearful that its nearly \$80 million a year in education programs might be hived off to the new Department, testified hard in behalf of hanging on to them; in addition, NSF's top officials and several of its academic clients pounded the corridors of Capitol Hill to get across the message that most of the education programs are integral to NSF's role as the scientifically sensitive bankroller of basic research.

The outcome, as specified in the conference report, is that NSF, at most, will have to give up \$24.4 million worth of education programs to the Department, including the \$3-million Pre-school Science Teacher Training Program and the \$5-million Minority Institutions Science Improvement Program — neither of which is central to NSF's own sense of mission.

The rest of the money can be squeezed from here or there, with the exception, as the conference report puts it, of "programs relating to the conduct of basic and applied research and developments" — which gives NSF the shield it dearly sought.

With the odds now reasonably good for final approval of the Department of Education, it's worth noting how little enthusiasm there is for this reshuffling of the federal organization chart. The Department was promised to the teacher lobbies by Candidate Jimmy Carter, and, though it's obviously in conflict with his promises to consolidate and reduce the federal bureaucracy, President Jimmy Carter apparently felt that he had to deliver for the teachers.

No one believes that the new Department, just because it's a new Department, will simplify federal dealings with education, or that it will save money, or be more responsive to the numerous infirmities of American education. About all that can be said for certain is that passage of the proposal will add a 13th cabinet-level department to the US Government, and that, as has invariably been the case with newly created federal agencies, it will take at least a year for organizational matters to settle down before serious attention can be concentrated on substantive affairs.

Science & Government Report
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